

Ser. No.10/523,182
Amdt. dated April 16, 2008
Reply to Office Action of December 20, 2007

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PATENT
PF020098
Customer No. 24498

Remarks/Arguments

Claim Objections

Claims 5 and 7 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Claims 5 and 7 have been amended to independent form, per Examiner's suggestion.
(Office Action, page 2)

In view of the above remarks and amendments to the claims, it is respectfully submitted that there is no longer a basis for a 37 CFR 1.75(c) objection to claims 5 and 7. Thus, it is further respectfully submitted that this objection has been satisfied and should be withdrawn.

35 U.S.C. §112, ¶ 2

The Examiner has rejected claims 5-9 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 5 and 7 have been amended to independent form, in accordance with Examiner's suggestion. (Office Action, page 2) The process claims are no longer dependent on apparatus claim 1. Thus, it is further respectfully submitted that this rejection has been satisfied and should be withdrawn.

35 U.S.C. §103

Claims 1-9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lindenblad (U.S. Patent No. 2,239,724).

The present invention, as recited by the amended claim 1, describes a broadband monopole antenna, comprising a radiating element mounted on an earth plane forming support of annular shape, wherein the radiating element is constituted by a hollow element

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having a "cup" shape integral with the earth plane forming support, said radiating element and said support being made on the basis of a metallizable plastic or foam, the external profile of the "cup"-shaped radiating element being given by the following equations:

$$\text{For } 1.3 < t < 4.075, \quad x(t) = 8 + 1.9 * t * \cos(t - 7), \quad z(t) = 2.5 + 12.5 \frac{\sin(t)}{t}$$

It is respectfully asserted that Lindenblad fails to disclose a radiating element "constituted by a hollow element having a 'cup' shape integral with the earth plane forming support" as described in currently amended claim 1.

Lindenblad teaches "an antenna comprising one or more conductors having a diameter which is a large fraction of the length of the working wave." (Lindenblad column 1, lines 34-37)

The Office Action asserts that Lindenblad "discloses in Fig. 10, a broadband monopole antenna comprising a cup-shaped radiating element (51) mounted on an earth plane forming support of annular shape (52), said radiating element being formed by a hollow element of metallizable material (Fig. 1, page 4, left-hand column, line 37 and lines 43-45)."

Applicant respectfully disagrees that Lindenblad discloses a broadband monopole antenna comprising a cup-shaped radiating element (Fig. 10, 51). In fact, Lindenblad describes a monopole antenna constituted by a radiator of ellipsoidal shape 51. This shape is along the radiating axis as seen on figure 10 and also explained page 3, left column – lines 41 to 43. It is not described or suggested that the radiating element shape is a "cup" shape.

Furthermore, Lindenblad does not describe that the radiating element is formed by a hollow element in the shape of "a cup". On page 4 – left column – lines 43-45, it is noted that "a convenient and useful form of construction is to cover a wooden form of the desired shape with a thin copper foil soldered to form a continuous sheet over the entire surface". While this could be interpreted as describing a structure that is either solid or hollow, it does not describe or suggest that the radiating element has a "cup" shape. Additionally,

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Lindenblad does not describe or suggest a process of manufacturing a monopole antenna using either an injection moulding or a machining of a single block of foam.

Therefore, Lindenblad fails to disclose a radiating element "constituted by a hollow element having a 'cup' shape integral with the earth plane forming support" as described in presently amended claim 1.

EP 1 189 305, referenced by Examiner in regard to integral formation of an antenna on a hollow plastic or foam element, relates to a conical monopole. This conical monopole (4, 4') is mounted on a mass plane (column 3 - line 13 or column 4 - line 26). It is not described or suggested that this mass plane or base plate 8 is integral with the conical monopole. In EP 1 189 305, these two elements are separate. Thus, the manufacturing processes are also different from the processes claimed in claims 5 to 9.

In view of the above remarks and amendments to the claims, it is respectfully submitted that there is no 35 USC 112 enabling disclosure provided by Lindenblad that makes the present invention as claimed in currently amended claim 1 unpatentable. It is further submitted that currently amended independent claims 5 and 7 are allowable for at least the same reasons claim 1 is allowable. Since dependent claims 3-4, 6 & 9, and 8 are dependent from allowable independent claims 1, 5, and 7, respectively, it is submitted that they too are allowable for at least the same reasons that their respective independent claims are allowable. Thus, it is further respectfully submitted that this rejection has been satisfied and should be withdrawn.

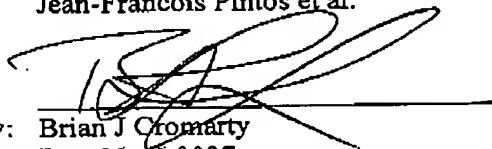
Having fully addressed the Examiner's rejections it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's representative at (609) 734-6804, so that a mutually convenient date and time for a telephonic interview may be scheduled.

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No fee is believed due. However, if a fee is due, please charge the additional fee to
Deposit Account 07-0832.

Respectfully submitted,
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